

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Adam Litterken acting on behalf of Brian Hameder on March 26, 2010.

The application has been amended as follows:

2. Claim 10 is canceled.

3. Claim 8 is rewritten as:

- - A liquid crystal device element comprising:
a pair of parallel substrates; conductive layers provided respectively on facing inner surfaces of these substrates; liquid crystal alignment layers provided respectively with pre-tilt angle on facing inner surfaces of these conductive layers, and a liquid crystal layer formed in between these pair of liquid crystal alignment layers, wherein the liquid crystal layer has liquid crystal-soluble particles dissolved or dispersed in a matrix liquid crystal, wherein each of the liquid crystal-soluble particles comprises a core having a diameter smaller than 100 nm and comprising one or a plurality of nanoparticles, and a protective layer comprising liquid crystal molecules or liquid crystal-like molecules provided on a periphery of the core, wherein a control circuit of applying voltage, while modulating at least frequency among frequency and voltage, is provided on the

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conductive layer for varying light transmittance of the liquid crystal layer, and wherein the matrix liquid crystal, in which the liquid crystal-soluble particles are dissolved or dispersed, shows an electro-optical response such that a voltage at which the matrix liquid crystal starts its response changes depending on a frequency of applied electric field, ~~and~~ wherein under a constant applied voltage, an electro-optical response is turned on by switching the frequency of applied electric field from low frequency to high frequency, and the electro-optical response is turned off by switching the frequency from high frequency to low frequency , and wherein a frequency modulation range of the electro-optical response can be changed freely from 20 Hz to 100 kHz . - - .

4. Lines 12-13 of Page 5 of the Specification are rewritten as:

- - wherein the liquid crystal-soluble particles ~~according to any of Claims 1 to 3~~ are dissolved or dispersed in the liquid - - .

5. Line 15 of Page 6 of the Specification is rewritten as:

- - element ~~according to Claim 8~~ is driven by using an active matrix - - .

REASONS FOR ALLOWANCE

6. The following is an examiner's statement of reasons for allowance. The closest cited prior art of record, Japan Journal of Applied Physics, vol. 41, pp.1315-1317, fails to fairly or suggest, even in view of US 4,370,647 and US 4,909,605, the liquid crystal display element recited above. None of the references teach that when under a constant applied voltage, an electro-optical response of a liquid crystal device is turned on by switching the frequency of applied electric field from low frequency to high frequency, and turned off by switching the frequency from high frequency to low frequency, where a frequency modulation range of the electro-optical response can be changed freely from 20 Hz to 100 kHz. See Applicant's remarks filed 02/22/10 and pages 6-12 of Applicant's specification.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number (571)272-1492. The examiner can normally be reached Monday to Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample, can be reached on (571)272-1376. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Sophie Hon/

Sow-Fun Hon

Examiner, Art Unit 1794